

# Site Compliance Report

**Site No:** REG603968  
**Site Owner:** Waikato District Council  
**Site Name:** Ngaruawahia WWTP: Old Taupiri Rd, Hopuhopu  
**Date:** 17 March 2021

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## 1 INTRODUCTION

The following resource consents are held for the site:

Resource Consent	Status	Description	Commenced	Expiry
AUTH119642.01.02	Current	Discharge up to 11,200 cubic metres per day of treated wastewater from the Ngaruawahia WWTP into the Waikato River	14/04/2011	31/03/2029
AUTH119643.01.01	Current	Discharge contaminants to air from activities associated with the Ngaruawahia WWTP	14/04/2011	31/03/2029
AUTH119644.01.01	Current	Discharge treated municipal wastewater sludge onto land during pond de-sludging from activities associated with the Ngaruawahia WWTP	14/04/2011	31/03/2029
AUTH119645.01.01	Current	Use, upgrade and maintain an outflow pipeline structure including an outflow diffuser on the bed of the Waikato River for the discharge of treated wastewater from the Ngaruawahia WWTP	14/04/2011	31/03/2029
AUTH119646.01.01	Current	Discharge treated wastewater (via seepage) to land and groundwater from activities associated with the Ngaruawahia WWTP	14/04/2011	31/03/2029
AUTH124828.01.01	Current	To discharge biosolids to land	23/10/2012	30/11/2022

This report examines the level of compliance of Waikato District Council with the selected conditions of the resource consents.

## 2 BACKGROUND

The Ngaruawahia wastewater treatment plant (WWTP) is operated on behalf of the local community by Watercare Services Limited (WSL) under a contractual agreement between WSL and Waikato District Council (WDC). The plant consists of:

- Inlet screens
- Oxidation pond with aerators
- An Actiflo system
- Ultra – violet disinfection
- Planted rock filters
- Multiport diffuser to the Waikato River

The WWTP is located to the north of the township of Ngaruawahia on the Old Taupiri Road. The performance of this plant has been deteriorating over the last couple of years and trigger levels have been met for total nitrogen for this year and last. The aeration pond on site is scheduled to be de-sludged once the Huntly WWTP has been de-sludged.

## 2.1 PREVIOUS COMPLIANCE HISTORY

Compliance Period	Compliance status
1 July 2019 to 30 June 2020	Significant non-compliance
1 July 2018 to 30 June 2019	Partial compliance
1 July 2017 to 30 June 2018	Full Compliance
1 July 2016 to 30 June 2017	High level of compliance
1 July 2015 to 30 June 2016	High level of compliance
1 July 2014 to 30 June 2015	Partial compliance
1 July 2013 to 30 June 2014	Partial compliance
1 July 2012 to 30 June 2013	Partial compliance
1 July 2011 to 30 June 2012	High level of compliance

In last years audit the following items of non-compliance were highlighted:

Resource consent	Condition Number	Action Required
AUTH119642.01.02	6	Please provide an update on the Site Improvement Programme, including the confirmed steps, relevant timeframes, being taken to bring the WWTP into compliance with the ammoniacal-nitrogen and total nitrogen discharge parameters. – remains non-compliant
AUTH119642.01.02	18	Please ensure samples are taken for all the required parameters at the required frequency. - compliant
AUTH119642.01.02	20	Please review the Operations and Management Plan before 30 June 2020. – remains non-compliant
AUTH119642.01.02	30	Please submit the last two six monthly diffuser surveys. – remains non-compliant
AUTH119642.01.02	33	Please ensure Waikato Regional Council are notified within 24 hours of the consent holder becoming aware of the limits specified in conditions 4 and 6 of this resource consent being exceeded, or any accidental discharge, plant breakdown or other circumstance which is likely to result in the limits of this consent being exceeded – remains non-compliant. Waikato Regional Council are notified in the monthly reporting but not within 24 hours as required
AUTH119642.01.02	35	Please submit a Wastewater Treatment Review Report by September 2020. – remains non-compliant. No report has been submitted



Aerial views of site



### 3 COMPLIANCE ASSESSMENT

Unless otherwise specified in this document this assessment covers the period from **1 July 2019 to 30 June 2020**.

This compliance assessment has been undertaken based on the submitted annual report by the consent holder, monitoring data supplied throughout the compliance period and any site inspections undertaken. Some administration, duplicate or irrelevant conditions have been omitted for brevity.

Please note that a description of the classification system used to describe compliance status is given in Appendix 1 of this report.

#### AUTH119642.01.02 - Water - sewage

**Activity Authorised: Discharge up to 11,200 cubic metres per day of treated wastewater from the Ngaruawahia WWTP into the Waikato River**

Condition No.	Description
1	The wastewater treatment and disposal system shall be designed, operated and maintained in general accordance with: i) The application for this resource consent; ii) The document titled "Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Assessment of Effects on the Environment" dated March 2009 and recorded on Waikato Regional Council's document system numbered 1458402; and iii) The document titled "Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Response to RMA Section 92(1) Requests for Further Information" dated August 2009 and recorded on Waikato Regional Council's document system numbered 1531323; subject to the conditions below which shall prevail should any inconsistency occur between the conditions and the above documents.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
3	Notwithstanding the stated limits in conditions of this consent, the consent holder shall make all reasonable and practical efforts to ensure that the final wastewater quality is maximised within the capabilities of the treatment system at all times.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
4	The maximum volume of treated wastewater discharged shall not exceed 11,200 cubic metres per day.
<b>Evidence</b>	Maximum outflow was 3,883m <sup>3</sup> /day
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
6	The consent holder shall ensure that, no later than 1 December 2012, the quality of the discharge immediately prior to entering the rock-lined channel shall comply with the following limits: i) The pH of the discharge shall not be less than 6 or greater than 9 pH units; ii) The median five day carbonaceous biochemical oxygen demand concentration shall not exceed 30 grams per cubic metre and the 90th percentile shall not exceed 60 grams per cubic metre; iii) The median suspended solids concentration shall not exceed 30 grams per cubic metre and the 90th percentile shall not exceed 60 grams per cubic metre; iv) The median ammoniacal-nitrogen concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre; v) The median total nitrogen (TN) concentration shall not exceed 25 grams per cubic metre; vi) The median summer (December to May inclusive) total nitrogen (TN <sub>summer</sub> ) concentration shall not exceed 20 grams per cubic metre; vii) The median summer (December to May inclusive) total nitrogen load (TN <sub>load</sub> ) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 57 kilograms per day; viii) The

	<p>median total phosphorus (TP) concentration shall not exceed 8 grams per cubic metre; ix) The median summer (December to May inclusive) total phosphorus (TPsummer) concentration shall not exceed 8 grams per cubic metre; x) The median summer (December to May inclusive) total phosphorus load (TPload) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 17.3 kilograms per day; xi) The median Escherichia coli (E.coli) concentration shall not exceed 126 cfu per 100 millilitres. For the purposes of this condition, to determine compliance with the median limits (excluding E.coli) no more than six samples in any 12 consecutive monthly samples over the period 1 July to 30 June each year shall exceed the specified limit. To determine compliance with the summer median limits, no more than 3 of the 6 monthly samples in any given summer (December to May) shall exceed the specified limit. To determine compliance with the median E.coli limit, no more than 26 samples in any 52 consecutive weekly samples shall exceed the specified limit. To determine compliance with the 90th percentile limits, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limit. Note: The discharge of treated wastewater to the Waikato River from the Huntly Wastewater Treatment Plant is authorised by consent 119647.</p>
<p><b>Evidence</b></p>	<p>i) The pH of the discharge shall not be less than 6 or greater than 9 pH units; - compliant</p> <p>ii) The median five day carbonaceous biochemical oxygen demand concentration shall not exceed 30 grams per cubic metre and the 90th percentile shall not exceed 60 grams per cubic metre; Compliant median actual was 3.0g/m<sup>3</sup></p> <p>iii) The median suspended solids concentration shall not exceed 30 grams per cubic metre and the 90th percentile shall not exceed 60 grams per cubic metre. median result 11g/m<sup>3</sup> - Compliant. 90%ile result = 35.5g/m<sup>3</sup> - Compliant</p> <p>iv) The median ammoniacal-nitrogen concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre; Median 22.6g/m<sup>3</sup> - Non-compliant. 90%ile 36.4g/m<sup>3</sup> Non-compliant</p> <p>v) The median total nitrogen (TN) concentration shall not exceed 25 grams per cubic metre; Median = 29.7g/m<sup>3</sup> Non-compliant</p> <p>vi) The median summer (December to May inclusive) total nitrogen (TNsummer) concentration shall not exceed 20 grams per cubic metre; median summer = 22.2g/m<sup>3</sup> - Non-compliant</p> <p>vii) The median summer (December to May inclusive) total nitrogen load (TNload) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 57 kilograms per day; viii) The median total phosphorus (TP) concentration shall not exceed 8 grams per cubic metre; median combined load = 40.7+10.7= 50.4kg/day - Compliant</p> <p>ix) The median summer (December to May inclusive) total phosphorus (TPsummer) concentration shall not exceed 8 grams per cubic metre; median summer = 0.56g/m<sup>3</sup> - Compliant</p> <p>x) The median summer (December to May inclusive) total phosphorus load (TPload) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 17.3 kilograms per day; combined load 0.5 + 2.8 = 3.3kg/day - Compliant</p> <p>xi) The median Escherichia coli (E.coli) concentration shall not exceed 126 cfu per 100 millilitres. For the purposes of this condition, to determine compliance with the median limits (excluding E.coli) no more than six samples in any 12 consecutive monthly samples over the period 1 July to 30 June each year shall exceed the specified limit. median 5cfu/100ml - compliant</p> <p>To determine compliance with the summer median limits, no more than 3 of the 6 monthly samples in any given summer (December to May) shall exceed the specified limit.</p> <p>To determine compliance with the median E.coli limit, no more than 26 samples in any 52 consecutive weekly samples shall exceed the specified limit. To determine compliance with the 90th percentile limits, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limit. Note: The discharge of treated wastewater to the Waikato River from the Huntly Wastewater Treatment Plant is authorised by consent 119647.</p>
<p><b>Status Reasoning</b></p>	<p>This WWTP had the following non-compliant results for the year:</p> <p>The median ammoniacal-nitrogen concentration shall not exceed 10 grams per cubic metre and</p>

	<p>the 90th percentile shall not exceed 20 grams per cubic metre; Median 22.6g/m<sup>3</sup> - Non-compliant. 90th percentile 36.4g/m<sup>3</sup> Non-compliant</p> <p>The median total nitrogen (TN) concentration shall not exceed 25 grams per cubic metre; Median = 29.7g/m<sup>3</sup> Non-compliant</p> <p>The median summer (December to May inclusive) total nitrogen (TN summer) concentration shall not exceed 20 grams per cubic metre; median summer = 22.2g/m<sup>3</sup> - Non-compliant</p>	
<b>Action Required</b>	<b>Investigate and report on the reasons for these non-compliant results and provide WRC with a program to improve the performance of this WWTP along with a timeframe for these improvements to be implemented.</b>	<b>Medium priority non-compliance</b>
7	Decommissioning of the wetland and gravel filter and construction of the rock-lined channel shall be completed by 23 April 2013.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
10	Should the measured median concentration or 90 <sup>th</sup> percentile concentration for either five day carbonaceous biochemical oxygen demand, suspended solids, or ammoniacal-nitrogen exceed 90% of the consented limits, as specified in condition 6 of this consent, for 2 of 3 consecutive years then a “trigger” level will be met. The consent holder shall design, build and commission the appropriate upgrade to the treatment process within two years after the “trigger” level is reached. The upgrade undertaken shall be designed to reduce the median or 90 <sup>th</sup> percentile concentration, as applicable, for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.	
<b>Evidence</b>	Trigger levels have been met for this year for the determinants listed in condition 6 above.	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
11	Should the measured median concentration for total nitrogen (TN), total phosphorus (TP) or E.coli exceed 90% of the consented limits, as specified in condition 6 of this consent, for 2 of 3 consecutive years then a “trigger” level will be met. The consent holder shall design, build and commission the appropriate upgrade to the treatment process within two years after the “trigger” level is reached. The upgrade undertaken shall be designed to reduce the median concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.	
<b>Evidence</b>	The trigger level has been exceeded for the 2019-20 and the 2020-21 years TN with 29.7g/m <sup>3</sup> which is above the trigger level of 23g/m <sup>3</sup> . This is 118% of the consent limit.	
<b>Status Reasoning</b>	trigger level for TN has been breached for this year and last year therefore triggering this condition. Therefore, the consent holder is now required to design, build and commission the appropriate upgrade to the treatment process within two years after the “trigger” level is reached, in this case from July 2020. The upgrade undertaken shall be designed to reduce the median concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.	
<b>Action Required</b>	<b>The consent holder is now required to design, build and commission the appropriate upgrade to the treatment process within two years after the “trigger” level is reached, in this case from July 2020. The upgrade undertaken shall be designed to reduce the median concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter before July 2022.</b>	<b>Low priority non-compliance</b>
12	Should the measured median summer (December to May inclusive) mass load for either total nitrogen (Tnload) or total phosphorus (Tpload) for Huntly and Ngaruawahia combined exceed 90% of the consented limit, as specified in condition 6 of this consent, on 2 of 3 consecutive summer periods then a “trigger” level will be met. The consent holder shall design, build and commission	

	the appropriate upgrade to the treatment process within two years after the “trigger” level is reached. The upgrade undertaken shall be designed to reduce the combined summer mass load of the nutrient for which the trigger was reached to less than 80% of the consented limit for that parameter.
<b>Evidence</b>	Triggers not exceeded
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
13	Unless otherwise agreed with the Waikato Regional Council in writing, the consent holder shall ensure that the treatment system is upgraded in accordance with the application documentation to the satisfaction of Waikato Regional Council.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Not assessed</b>
14	The consent holder shall continuously monitor the flow rate of wastewater entering and leaving the treatment plant and shall record the total daily influent and discharge volumes.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
15	The consent holder shall continuously monitor and record rainfall at the site on a daily basis.
<b>Evidence</b>	No rainfall has been recorded
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Minor technical non-compliance</b>
16	The consent holder shall, prior to January each year, calculate the ratio of daily Peak Wet Weather Flow (PWWF) to Average Dry Weather Flow (ADWF). Where the ratio of PWWF to ADWF exceeds 4.5, the consent holder shall prepare an Infiltration Management Plan and provide this to Waikato Regional Council for review prior to implementation. For the purposes of this condition, calculation of ADWF will be taken as the median daily wastewater flow measured at the inlet to the oxidation pond during the month of March for the preceding year.
<b>Evidence</b>	Ratio was 2.7
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
17	The consent holder shall define a sampling location or locations and the sampling method or methods to be used for monitoring the parameters in conditions 5 and 6. The location(s) and method(s) used for the sampling shall be to the satisfaction of Waikato Regional Council.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
18	The consent holder shall take grab samples of the treated wastewater on a monthly basis, from the sampling location specified in condition 17 of this consent, for the purpose of determining compliance with conditions 5 and 6. E.coli grab samples shall be taken on a weekly basis.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>

19	All wastewater quality analyses shall be undertaken by an IANZ accredited or equivalent laboratory. All methods used shall be appropriate for the wastewater analyses undertaken.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
20	The consent holder shall prepare an Operations and Management Plan. This Plan shall be prepared by a suitably qualified and experienced person and shall detail how the treatment system is to be operated and maintained to ensure compliance with the conditions of this consent and consent 119643, 119644 and 119645. As a minimum the Plan shall include the following matters: i) A description of the wastewater treatment plant including as-built plans for the wastewater treatment facilities; ii) A description of the sequence, timing and methods of construction of upgrades to the treatment plant; iii) A description and schedule of the routine inspection, monitoring and maintenance procedures to be undertaken to ensure effective plant operation; iv) A schedule of monitoring to be carried out to ensure effective plant operation and compliance with consent conditions; v) A sampling location plan; vi) A schedule of the treatment plant critical aspects and the detailed response and contingency plans to address anticipated variations from normal plant operation; vii) Procedures for recording routine maintenance and all repairs that are undertaken; viii) Chain of command, responsibility and notification protocols; ix) The current infiltration management plan; x) The operation of the de-sludging pond; xi) Procedures for improving and/or reviewing the plant management plan. This Plan shall be lodged with Waikato Regional Council within six months of commencement of this consent, and shall be reviewed and updated annually and as required as a result of any changes in plant operation or management. An electronic copy of the management plan shall be provided to Waikato Regional Council within 10 working days of a request to do so. Note: The Waikato Regional Council reserves the right to make comment on the Operations and Management Plan submitted and any subsequent changes to the Plan.
<b>Evidence</b>	The Operations and Management Plan – Updated April 2014, was forwarded to Waikato Regional Council by 30 May 2014 (Doc #3173681).
<b>Status Reasoning</b>	No annual review has been undertaken since 2014. It is important that the O&M plan is maintained and reviewed regularly to ensure it accurately reflects the state of operations within the WWTP.
<b>Action Required</b>	<b>Please undertake a review of the O&amp;M plan to ensure it is accurate and reflects the current operations and equipment on site.</b> <b>Minor technical non-compliance</b>
21	The treatment system and discharge to the Waikato River shall be operated, maintained and managed by appropriately experienced personnel in accordance with the Operations and Management Plan pursuant to condition 20 of this consent.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
22	The consent holder shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.
<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
23	In conjunction with consent 119643, the consent holder shall maintain and keep a Complaints Register for all complaints made about the treatment and discharge operations received by the consent holder. The Register shall record: i) The date, time and duration of the event/incident that has resulted in the complaint; ii) The location of the complainant when the event/incident was detected; iii) The possible cause of the incident; iv) The weather conditions and wind direction at the site when the incident allegedly occurred, if significant to the complaint; v) Any corrective action undertaken by the consent holder in response to the complaint. The Register shall be made available to the Waikato Regional Council at all reasonable times. Complaints which may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Waikato



	Regional Council within 5 working days of the complaint being received.	
<b>Evidence</b>	WDC keeps a CRM database	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
24	The consent holder shall place and maintain a sign in the vicinity of the discharge to the Waikato River, in such a way that it is conspicuous to river users, advertising of the presence of the wastewater discharge and warning against the use of the location for swimming.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
25	The consent holder shall maintain landscape and screen planting as detailed in the report titled "Waikato District Council Ngaruawahia Waste Water Treatment Visual Analysis", dated March 1998, and recorded on Waikato Regional Council's document system numbered 67984.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Not assessed</b>
26	The consent holder shall be responsible for any erosion that occurs as a result of the exercise of this consent and for any erosion works that become necessary to preserve the integrity and stability of the banks of the Waikato River. Note: A separate resource consent may be required as a result of the need to undertake erosion control works. Any such consent shall be obtained by the consent holder at their sole expense prior to any works being undertaken.	
<b>Evidence</b>	No erosion has been reported	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
27	The discharge to the Waikato River shall be via a multi-port diffuser located on the bed of the Waikato River.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
28	Ports 2, 4, 6 and 8 of the diffuser, as numbered from the true right bank of the Waikato River, shall remain closed unless specifically permitted in writing by the Waikato Regional Council.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
29	The consent holder shall maintain the outfall diffuser in an operational state such that the discharge from ports 1, 3, 5, 7 and 9 is uniform along the operational length of the diffuser and providing effective dispersion of the wastewater in the river flow.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
30	The consent holder shall undertake a survey of the diffuser at six monthly intervals to demonstrate compliance with conditions 28 and 29 of this consent. The frequency of the surveys may be reduced to no less than every two years following written request to and approval from the Waikato Regional Council. The results of each survey and any recommendation as to the frequency of future surveys shall be provided to the Waikato Regional Council within 30 days of the survey.	

<b>Evidence</b>	Dive surveys have not been undertaken as required. This has been partially due to health and safety conditions and lack of organization.	
<b>Status Reasoning</b>	Dive surveys are required to ensure the diffuser outfall is in good condition and fit for purpose as well as functioning as required.	
<b>Action Required</b>	<b>Undertake dive surveys as required or apply for a change to the monitoring requirement</b>	<b>Minor technical non-compliance</b>
31	The consent holder shall forward the results of the monitoring undertaken pursuant to conditions 14, 15 and 18 to the Waikato Regional Council, via electronic means, within one month of receipt of the results by the consent holder.	
<b>Evidence</b>	Monthly results are supplied as required	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
32	The consent holder shall provide to the Waikato Regional Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental Unit), and Hopuhopu Manawhenua Roopu a written report by 30 September each year addressing the following: i) A summary of the monitoring results required by conditions of this resource consent for the year ending 30 June; ii) Critically analyse the monitoring data collected and comment on any emerging trends; iii) Comment on compliance with the conditions of this resource consent; iv) Any reasons for non-compliance or difficulties in achieving compliance with the conditions of this resource consent and a description of and a summary of the efficacy of any remedial works undertaken; v) Comment on infiltration rates and any remedial works planned and the efficacy of these works in subsequent reports; vi) Any other issue considered relevant to the consent holder. A quarterly report shall be prepared and distributed at the end of March, June and December of each year. These progress reports shall address the monitoring results for the preceding 12 months, including the rolling 12 month median value. The reports shall be distributed to Waikato Regional Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environmental Unit), and Hopuhopu Manawhenua Roopu.	
<b>Evidence</b>	An annual report is supplied	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
33	The consent holder shall notify the Waikato Regional Council within 24 hours (where practicable) of the consent holder becoming aware of the limits specified in conditions 4, 5 and 6 of this resource consent being exceeded, or any accidental discharge, plant breakdown or other circumstance which is likely to result in the limits of this consent being exceeded. The consent holder shall, within 10 working days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the breach, possible causes and steps to ensure future compliance.	
<b>Evidence</b>	Notification is given as required	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
34	The consent holder shall as soon as reasonably practicable, notify the Waikato District Council (Community Assets – Operations Unit), Watercare Services Limited, and the Waikato Regional Council of an event that may in itself, or as a consequence of an event, have a significant adverse effect on the quality of the water within the Waikato River at the abstraction points of the Hopuhopu, Huntly, Te Kauwhata and Tuakau (Auckland) Water Supplies. The consent holder shall record the reasons why the situation occurred, the actions taken by the consent holder and an assessment of what measures can be adopted in the future to minimise such occurrences and upon written request from the Waikato Regional Council provide a report to the Waikato Regional Council and the Medical Officer of Health addressing this matter.	

<b>Evidence</b>	No events of this nature have occurred during this compliance period	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Not assessed</b>
35	The consent holder shall, by 30 September 2015 and every five years thereafter, submit to the Waikato Regional Council a Wastewater Treatment Review Report, the scope of which shall include: i) An analysis of the performance of the treatment system with respect to the initial plant design; ii) Identification of any deficiencies in the plant design or operation and the measures that are or have been undertaken to address these deficiencies and the anticipated (or actual) improvement in treated wastewater quality; iii) Timetable for the treatment plant capital upgrade to cater for actual population growth; iv) A review of the trend in the combined contribution made by the Ngaruawahia and Huntly wastewater treatment plant discharges to the total nitrogen and total phosphorus load in the Waikato River at Mercer Bridge since commencement of this consent.	
<b>Evidence</b>	A Treatment Review report was due by September 2020. Previous report was submitted in 2015 (doc ref 9197325)	
<b>Status Reasoning</b>	Report is significantly overdue	
<b>Action Required</b>	<b>A Treatment Review report was due by September 2020, please submit a report by 30 June 2021</b>	<b>Minor technical non-compliance</b>
<b>Authorisation Compliance:</b>		<b>Significant non-compliance</b>

#### **AUTH119643.01.01 – Air – odour**

##### **Activity Authorised: Discharge contaminants to air from activities associated with the Ngaruawahia WWTP**

<b>Condition No.</b>	<b>Description</b>	
1	The discharge to air shall be undertaken in general accordance with: i) The application for this resource consent; ii) The document titled "Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Assessment of Effects on the Environment" dated March 2009 and recorded on Waikato Regional Council's document system numbered 1458402; and iii) The document titled "Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Response to RMA Section 92(1) Requests for Further Information" dated August 2009 and recorded on Waikato Regional Council's document system numbered 1531323; subject to the conditions below, which shall prevail should any inconsistency occur between the conditions and the above documents.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
2	The consent holder shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.	
<b>Evidence</b>	WDC undertakes induction training for all contractors	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
4	The operation, management and maintenance of the Ngaruawahia Wastewater Treatment Plant shall not result in any objectionable odours at or beyond the boundary of the properties on which the treatment plant is located.	

<b>Evidence</b>	No reports or complaints of odour have been received by WRC during this compliance period.	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
5	There shall be no discharge of airborne contaminants as a result of the activities authorised by this resource consent to the extent that it causes an adverse effect at or beyond the boundary of the subject property on which the treatment plant is located. Note: For the purpose of this consent, the Waikato Regional Council will use the guidelines for assessment in chapter 6.4 of the Waikato Regional Plan to determine whether adverse effects are occurring from the discharge of odour or particulate matter.	
<b>Evidence</b>	No reports or complaints of airborne contaminants have been received by WRC during this compliance period.	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
6	The consent holder shall prepare an Odour Management Plan. This Plan shall be prepared by a suitably qualified and experienced person and shall detail the methods and operational procedures adopted by the consent holder to ensure compliance with the conditions of this consent. The Plan may form part of the Operations and Management Plan specified in consent 119642. As a minimum the Odour Management Plan shall address the following matters: i) A description of the entire wastewater treatment facility; ii) A description of routine inspection, monitoring and maintenance procedures to be undertaken to ensure effective plant operation and compliance with consent conditions; iii) Details of operational and maintenance procedures to minimise odour release from the inlet screen; iv) Details of operational and maintenance procedures to minimise odour release from the oxidation pond; v) Details of operational and maintenance procedures to minimise odour release during pond desludging and pond sludge drying and handling; vi) Details of contingency plans and procedures to address power or equipment failure at the treatment plant; vii) Details of the odour complaints procedure, record keeping and response procedure. This Plan shall be lodged with Waikato Regional Council within six months of commencement of this consent, and shall be reviewed and updated annually and as required as a result of any changes in plant operation or management. An electronic copy of the management plan shall be provided to Waikato Regional Council within 10 working days of a request to do so. Note: The Waikato Regional Council reserves the right to make comment on the Operations and Management Plan submitted and any subsequent changes to the Plan.	
<b>Evidence</b>	Odour management plan is included in the 2014 amendment to the Operations Management Plan (doc ref 3150300)	
<b>Status Reasoning</b>	Plans are required to be reviewed annually however this one has not been reviewed since 2014	
<b>Action Required</b>	<b>Please review all plans as required to ensure they remain accurate and relevant to operations on site.</b>	<b>Minor technical non-compliance</b>
7	In conjunction with consent 119642, the consent holder shall maintain and keep a Complaints Register for all complaints made about the treatment and discharge operations received by the consent holder. The Register shall record: i) The date, time and duration of the event/incident that has resulted in the complaint; ii) The location of the complainant when the event/incident was detected; iii) The possible cause of the incident; iv) The weather conditions and wind direction at the site when the incident allegedly occurred, if significant to the complaint; v) Any corrective action undertaken by the consent holder in response to the complaint. The Register shall be made available to the Waikato Regional Council at all reasonable times. Complaints which may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Waikato Regional Council within 5 working days of the complaint being received.	
<b>Evidence</b>	WDC operates a CRM database of complaints from the public.	
<b>Status Reasoning</b>		

<b>Action Required</b>		<b>Full compliance</b>
8	The consent holder shall notify the Waikato Regional Council of any incident, including power, mechanical or process failure, leading to a significant emission of odour from the plant, within 24 hours of the incident being brought to the attention of the consent holder, or the next working day. A written report shall be forwarded to the Waikato Regional Council within seven working days of the event occurring describing the incident, the reasons for it occurring, its consequences (including the nature of any complaints), the measures taken to remedy or mitigate its effects, and any measures taken to prevent a recurrence of the event, including any changes proposed to the Odour Management Plan.	
<b>Evidence</b>	WDC notifies WRC of any significant issues that are likely to result in non-compliance	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
<b>Authorisation Compliance:</b>		<b>Full compliance</b>

#### **AUTH119644.01.01 – Land – sewage**

**Activity Authorised: Discharge treated municipal wastewater sludge onto land during pond de-sludging from activities associated with the Ngaruawahia WWTP**

<b>Condition No.</b>	<b>Description</b>	
1	The sludge removal and treatment operation shall be undertaken in general accordance with: i) The application for this resource consent; ii) The document titled “Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Assessment of Effects on the Environment” dated March 2009 and recorded on Waikato Regional Council’s document system numbered 1458402; and iii) The document titled “Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Response to RMA Section 92(1) Requests for Further Information” dated August 2009 and recorded on Waikato Regional Council’s document system numbered 1531323; subject to the conditions below which shall prevail should any inconsistency occur between the conditions and the above documents.	
<b>Evidence</b>	no desludging has occurred at this site during this compliance period	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Not assessed</b>
<b>Authorisation Compliance:</b>		<b>Not assessed</b>

#### **AUTH119645.01.01 – Bed – structure**

**Activity Authorised: Use, upgrade and maintain an outflow pipeline structure including an outflow diffuser on the bed of the Waikato River for the discharge of treated wastewater from the Ngaruawahia WWTP**

<b>Condition No.</b>	<b>Description</b>	
1	The outfall structure shall be maintained and operated in general accordance with: i) The application for this resource consent; ii) The document titled “Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Assessment of Effects on the Environment” dated March 2009 and recorded on Waikato Regional Council’s document system numbered 1458402; and iii) The document titled “Waikato District Council Ngaruawahia and Huntly Wastewater Resource Consents Project, Resource Consents Application: Response to RMA Section 92(1) Requests for Further Information” dated August 2009 and recorded on Waikato Regional Council’s document system numbered 1531323; subject to the conditions below, which shall prevail should any inconsistency occur between the conditions and the above documents.	

<b>Evidence</b>	
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
4	The discharge of treated wastewater to the Waikato River shall be via a multi-port diffuser located on the bed of the Waikato River.
<b>Evidence</b>	A diffuser is in place
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
5	Ports 2, 4, 6 and 8 of the diffuser, as numbered from the true right bank of the Waikato River, shall remain closed unless specifically permitted in writing by the Waikato Regional Council.
<b>Evidence</b>	<p>Ngaruawahia Diffusers and Intake Screen</p> <p>2 large trees were removed from the pipeline.</p> <p>The screen was cleaned and shows no damage. It was clear of the riverbed by 600mm at one end and 1000mm clear at the other end.</p> <p>The diffusers were inspected and some branches removed. All diffusers were 400-450mm clear of the riverbed with no damage seen.</p> <p>The 4 blank flanges were found in good condition and show no damage</p> <p>Branches were found and cleared along the way.</p>
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
6	The consent holder shall maintain the outfall diffuser in an operational state such that the discharge from ports 1, 3, 5, 7 and 9 is uniform along the operational length of the diffuser and providing effective dispersion of the wastewater in the river flow.
<b>Evidence</b>	<p>Ngaruawahia Diffusers and Intake Screen</p> <ul style="list-style-type: none"> <li>• 2 large trees were removed from the pipeline.</li> <li>• The screen was cleaned and shows no damage. It was clear of the riverbed by 600mm at one end and 1000mm clear at the other end.</li> <li>• The diffusers were inspected and some branches removed. All diffusers were 400-450mm clear of the riverbed with no damage seen.</li> <li>• The 4 blank flanges were found in good condition and show no damage.</li> <li>• Branches were found and cleared along the way.</li> </ul>
<b>Status Reasoning</b>	
<b>Action Required</b>	<b>Full compliance</b>
7	The consent holder shall undertake a survey of the diffuser at six monthly intervals to demonstrate compliance with conditions 5 and 6 of this consent. The frequency of the surveys may be reduced to no less than every two years following written request to and approval from the Waikato Regional Council. The results of each survey and any recommendation as to the frequency of future surveys shall be provided to the Waikato Regional Council within 30 days of the survey.
	The last dive survey was undertaken in May 2020 (doc ref 18006748)

<b>Status Reasoning</b>	the consent holder has not been undertaking 6 monthly surveys. This has been due to adverse weather and health and safety considerations as well as cost.	
<b>Action Required</b>	Please undertake dive surveys as required or apply to change the frequency of dive surveys to WRC.	<b>Minor technical non-compliance</b>
8	The consent holder shall notify the Waikato Regional Council in writing at least five working days prior to commencement of survey works.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
9	The consent holder shall be responsible for the structural integrity and maintenance of the outfall structure and for the provision and maintenance of any erosion control works that become necessary to preserve the structural integrity of the outfall, and/or to control erosion as a result of exercise of this consent. Any such works shall be to the satisfaction of the Waikato Regional Council. Note: A separate resource consent may be required as a result of the need to undertake erosion control works. Any such consent shall be obtained by the consent holder at their sole expense prior to any works being undertaken.	
<b>Evidence</b>	Diffuser is maintained as required.	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
10	Any and all earthmoving machinery, pumps and generators associated with use and maintenance shall be operated in a manner which ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during refueling and machinery servicing and maintenance. Refueling and lubrication activities shall be carried out away from any surface water such that any spillage can be contained and does not enter any surface water or unsealed ground.	
<b>Evidence</b>		
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
11	The consent holder shall maintain the structure so that no part of the structure is lost (e.g. breaks loose due to water) or results in a navigational hazard. Any material that is lost from the structure shall be immediately retrieved by the consent holder. Should the material lost be a hazard to navigation the Waikato Regional Council shall be informed immediately.	
<b>Evidence</b>	Dive surveys and maintenance is undertaken as required to ensure the safety of river users	
<b>Status Reasoning</b>		
<b>Action Required</b>		<b>Full compliance</b>
<b>Authorisation Compliance: Full compliance</b>		

#### 4 SUMMARY OF COMPLIANCE

Based on the conditions selected for monitoring, compliance has been assessed as:

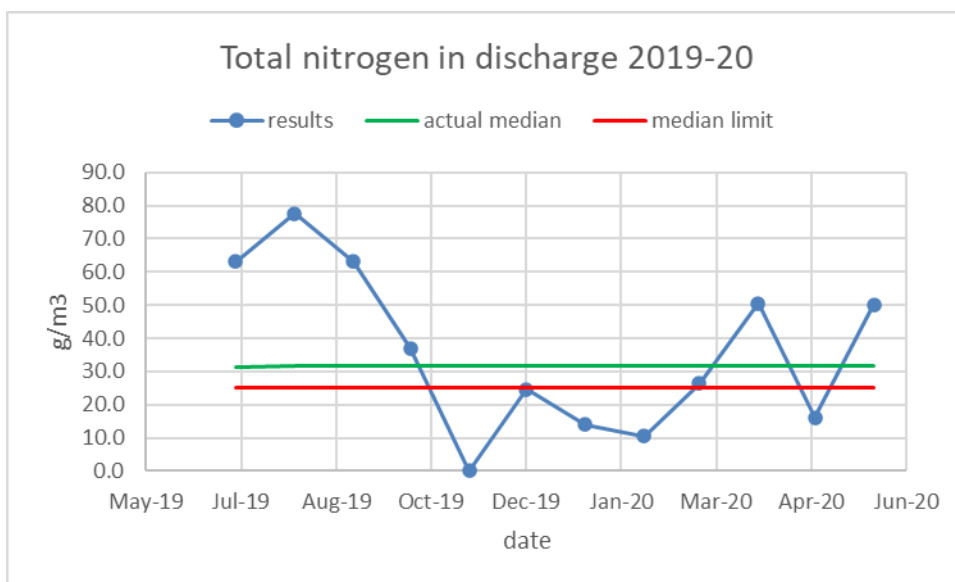
Authorisation	Authorisation Description	Compliance Status
AUTH119642.01.02	Discharge up to 11,200 cubic metres per day of treated wastewater from the Ngaruawahia WWTP into the Waikato River	Significant non-compliance
AUTH119643.01.01	Discharge contaminants to air from activities associated with the Ngaruawahia WWTP	Full compliance
AUTH119644.01.01	Discharge treated municipal wastewater sludge onto land during pond de-sludging from activities associated with the Ngaruawahia WWTP	Not assessed
AUTH119645.01.01	Use, upgrade and maintain an outflow pipeline structure including an outflow diffuser on the bed of the Waikato River for the discharge of treated wastewater from the Ngaruawahia WWTP	Full compliance
AUTH119646.01.01	Discharge treated wastewater (via seepage) to land and groundwater from activities associated with the Ngaruawahia WWTP	Not assessed
AUTH124828.01.01	To discharge biosolids to land	Not assessed

Overall Site Compliance:

Significant non-compliance

#### 5 DISCUSSION AND CONCLUSIONS

The performance of the Ngaruawahia WWTP has declined over the past couple of years and for the determinants of total and ammoniacal nitrogen. The non-compliance with total nitrogen has exceeded the trigger limits for two consecutive years and subsequently as stated in condition 11 below, the consent holder is now required to implement a site upgrade to improve compliance.





Condition 11: Should the measured median concentration for total nitrogen (TN), total phosphorus (TP) or E.coli exceed 90% of the consented limits, as specified in condition 6 of this consent, for 2 of 3 consecutive years then a “trigger” level will be met. The consent holder shall design, build and commission the appropriate upgrade to the treatment process within two years after the “trigger” level is reached. The upgrade undertaken shall be designed to reduce the median concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.

The trigger level has been exceeded for the 2019-20 and the 2020-21 years TN with 29.7g/m<sup>3</sup> which is above the trigger level of 23g/m<sup>3</sup>. This is 118% of the consent limit.

Data Summary		Jul-19	-	Jun-20	RC119642 - Ngaruawahia							
<b>Inflow Summary Reporting</b>		<i>m<sup>3</sup></i>										
Average Daily Inflow		1,451										
Average Daily Inflow (Dec-May)		1,242										
Max Daily Inflow		3,859										
Average Monthly Total		44,273										
Max Monthly Total		60,795										
Annual Inflow Total		531,274										
PWWF/ADWF Ratio		2.7										
<b>Outflow Summary Reporting</b>		<i>Daily Limit - 2,600m<sup>3</sup></i>										
Average Daily Flow		1,285										
Max Daily Flow		3,883										
90 <sup>th</sup> Percentile Daily Flow		3,502										
Average Monthly Total		39,255										
Max Monthly Total		70,081										
Annual Outflow Total		471,058										
<b>Discharge Monthly Tests</b>		<b>Consent Limit</b>				<b>Measured</b>		<b>Compliance</b>				
<b>Parameter</b>	<b>Unit</b>	<b>Median</b>	<b>90 Percentile</b>	<b>Trigger</b>	<b>Percentile</b>	<b>Median</b>	<b>Percentile</b>	<b>Median</b>	<b>90 Percentile</b>	<b>2017/18 Trigger</b>	<b>2018/19 Trigger</b>	<b>2019/20 Trigger</b>
pH between 6-9	pH	9.0		8.5		7.7	7.8	0 / 12				
cBOD5	ppm	30.0	60.0	27.0	54.0	3.5	15.9	0 / 12	0 / 12			Compliant
Ammoniacal Nitrogen	ppm	10.0	20.0	9.0	18.0	24.2	36.2	11 / 12	9 / 12			X
Total Nitrogen	ppm	25.0		23.0		29.7	34.3	11 / 12	9 / 12			X
Total Nitrogen (Summer Limit Dec-May)	ppm	20.0		23.0		22.2	30.8	5 / 6				X
Total Phosphorus	ppm	8.0		7.0		0.1	2.5	0 / 12				Compliant
Total Phosphorus (Summer Limit Dec-May)	ppm	8.0		7.0		0.6	4.4	0 / 6				Compliant
<b>Combined Discharge</b>		<b>Consent value</b>				<b>Compliance</b>						
Summer TN (Huntly & Ngaruawahia)	kg/day	57.0				35.3		1 / 6				Compliant
Summer TP (Huntly & Ngaruawahia)	kg/day	17.3				3.8		0 / 6				Compliant
<b>Discharge Monthly Tests</b>		<b>Consent value</b>				<b>Compliance</b>						
Total Suspended Solids	ppm	40.0	100.0	36.0	90.0	11.0	35.5	1 / 12	0 / 12	2017/18 Trigger	2018/19 Trigger	2019/20 Trigger
<b>Discharge Monthly Tests</b>		<b>Consent value</b>				<b>Compliance</b>						
E-coli	cfu/100ml	126.0		113.4		5.0		7 / 60		2017/18 Trigger	2018/19 Trigger	2019/20 Trigger

The remaining items of non-compliance primarily relate to overdue reports, failure to review the operations and management plan and failing to undertake dive surveys at the required frequency. In a recent liaison meeting WSL asked about the possibility of reducing the frequency of dive surveys and they were advised that this is possible by formally applying for a reduction in monitoring frequency accompanied with a summary of the reasons for the request.

There is a trigger level included in the consent holders annual report for TN concentration for the summer months which does not have a trigger level in the consent whereas the consent holder has included a trigger level of 23ppm whereas the limit is 20ppm. It is not possible to have a trigger level in excess of the maximum consent limit and therefore this must be an error.

Discharge Monthly Tests	Parameter	Unit	Consent Limit				Measured	
			Median	90 Percentile	Trigger	Percentile	Median	Percentile
	Total Nitrogen (Summer Limit Dec-May)	ppm	20.0		23.0		22.2	30.8

## 6 SUMMARY OF ACTIONS REQUIRED

The following actions are required to be undertaken:

Resource consent	Condition	Action Required
AUTH119642.01.02	6	Investigate and report on the reasons for these non-compliant results and provide WRC with a plan to improve the performance of this WWTP along with a timeframe for these improvements to be implemented.

AUTH119642.01.02	11	The consent holder is now required to design, build and commission the appropriate upgrade to the treatment process within two years after the "trigger" level is reached, in this case from July 2020. The upgrade undertaken shall be designed to reduce the median concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter before July 2022.
AUTH119642.01.02	20	Please undertake a review of the O&M plan to ensure it is accurate and reflects the current operations and equipment on site.
AUTH119642.01.02	30	Undertake dive surveys as required or apply for a change to the monitoring requirement
AUTH119642.01.02	35	A Treatment Review report was due by September 2020, please submit a report by 30 June 2021
AUTH119643.01.01	6	Please review all plans as required to ensure they remain accurate and relevant to operations on site.
AUTH119645.01.01	7	Please undertake dive surveys as required or apply to change the frequency of dive surveys to WRC.

## 7 RECOMMENDATIONS FOR WAIKATO REGIONAL COUNCIL

In response to the decreasing performance of the WWTP and continued non-compliance I recommend that WRC issues the consent holder with a formal warning for the non-compliances during this year and in conjunction with last year's non-compliances, and for the overall downward trend in compliance at the site.

I also recommend that this site maintains its focus area 1 status and that subsequently this site will be audited again next year to assess what actions have been taken or planned to improve compliance.



Edward Prince  
**Senior Resource Officer - Infrastructure  
Resource Use**

**Date: 25 March 2021**

### 7.1 Decision

I have reviewed this audit report and agree with the recommendations.



Hugh Keane  
**Team Leader - Infrastructure  
Resource Use**

**Date: 29 March 2021**

## APPENDIX 1

### Compliance Status for Individual Conditions

Compliance Status	Description
Not assessed	Monitoring of this condition was not undertaken during this monitoring event
High priority non-compliance	The non-compliance has the potential for, or has resulted in, significant adverse effects on the environment.
Medium priority non-compliance	There is non-compliance with limits or other direct controls on adverse effects; and The non-compliance has the potential for, or has resulted in, a greater than minor increase in the level of effects authorised.
Low priority non-compliance	There is non-compliance with limits or other direct controls on adverse effects; and The non-compliance has the potential for, or has resulted in, a less than minor increase in the level of effects authorised; and/or There has been a significant technical non-compliance such as a failure to collect or supply self-monitoring data.
Minor technical non-compliance	There is non-compliance with a condition, or part of a condition, that does not directly control adverse effects; and The non-compliance was not significant in the management of effects. For example a short delay in supplying data or meeting a deadline for a report
Full Compliance	The condition has been complied with

### Compliance status for individual consents and the entire site

Compliance Status	Description
Not assessed	Monitoring has not been undertaken at this site during the current financial year
Significant non-compliance	There has been a high priority non-compliance; and/or There have been several medium priority non-compliances.
Partial compliance	There has been a medium priority non-compliance; and/or There have been several low priority non-compliances.
High level of compliance	There has been a low priority non-compliance; and/or There have been several minor technical non-compliances.
Full compliance	All conditions that include limits or other direct controls on adverse effects have been complied with. A small number of minor technical non-compliances may have occurred.